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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/776,730

02/06/2001

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HAR59 029

2365

77617 7590 07/21/2009

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EXAMINER

ARMSTRONG, ANGELA A

ART UNIT

PAPER NUMBER

2626

MAIL DATE

DELIVERY MODE

07/21/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/776,730	Applicant(s) DUNCAN, DAVID	
	Examiner ANGELA A. ARMSTRONG	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the remarks filed 2/21/07.

Currently, claims 1-20 are pending.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2 and 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Kopf (U.S. Patent 5,825,830) in view of Fielder et al. (U.S. Patent 6,446,037), hereinafter referenced as Fielder, in further view of Warren et al. (U.S. Patent 5,963,909), hereinafter, referenced to as Warren.

Regarding claim 1, Kopf discloses a method of compressing digital audio data and other data into an audio signal for transmission to a receiving station, (title) comprising the steps of: d. packing compressed audio and other data into remaining space within the compression packet, (col. 5, lines 52-54). Kopf does not disclose the method of dividing the audio signal in to blocks, then packets and into words or tagging. However this method is well known in the art, as taught by Fielder and Warren. Fielder discloses a method of audio coding comprising the steps of: a. dividing the audio signal into compression blocks, each compression block consisting of a plurality of compression packets, each compression packet consisting of a plurality of words, (col. 8, lines 17-20) b. providing one word in each compression packet with a component of

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configuration data, whereby a compression block contains sufficient configuration information to a manner of packing data into the compression block, (col. 8, lines 41-43), however Fielder does not teach tagging a word in the compression packet. The method of tagging is well known in the art as taught by Warren. In a similar field of endeavor, Warren discloses a method comprising the steps of: c. tagging one word in each compression packet to identify the tagged word as a word containing configuration information, (col. 2, lines 9-14) e. transmitting the compression packets in a predetermined sequence to a receiving station, wherein the receiving station constructs the configuration information from the tagged words in a compression block and decodes the compressed audio data and other data according to the configuration information. (col. 2, lines 3-13) It would have been obvious to modify the compression method taught by Kopf with Fielder's audio coding method to provide a device that would divide the audio signal in blocks, then packets and words and providing one word with configuration information for the purpose of being able to compress the data to add more information in the remaining spaces. It would have been further obvious to modify Kopf and Fielder's compression and coding method with the system taught by Warren to provide tagging to the word in the compression packet for the purpose of providing information regarding how to a compress packet and being able to restore it to the original signal.

Regarding claim 2, Kopf, Fielder and Warren disclose the method of claim 1, Fielder further discloses the method in which each compression packet consists of four word pairs. (col. 9, lines 22-24)

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Regarding claim 10, Kopf, Fielder and Warren disclose the method of claim 1, Fielder further discloses a method in which the audio data and other data comprises metadata, linear time code data and channel status data. (see Fig. 6a, col. 20, lines 49-53)

Claims 3-4 and 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Kopf, Fielder and Warren as applied to claims 1-2 and 10 above, and further in view of Uramoto (U.S. Patent 6,243,032) hereinafter referenced to as Uramoto.

Regarding claim 3, Kopf, Fielder and Warren discloses the method of claim 2, however they do not specifically teach a method in which a first most significant bit of a first word pair is tagged. This method, however, is well known in the art as taught by Uramoto. In a similar field of endeavor, Uramoto disclose the method in which a first most significant bit of a first word pair is tagged. (col. 6, lines 15-16, Table 1 and col. 8, line 44: where bit position 0 is the MSB) It would have been obvious to modify Kopf, Fielder and Warren's method of providing a compression method dividing the audio signal and applying a tag to a word with Uramoto's audio/video signal unit to provide a method that would tag the first word in the MSB.

Regarding claim 4, Kopf, Fielder, Warren and Uramoto discloses the method of claim 3, Uramoto further discloses the method in which a second most significant bit of the first word pair holds the component of configuration data (frame head) (col.6, lines 16-17 and Table 1).

Regarding claim 8, Kopf, Fielder, Warren discloses the method of claim 2, however they fail to specifically teach in which each word has 24, 20 or 16 bits. This is a common method in the art as taught by Uramoto. In a similar field of endeavor Uramoto disclose the method in which each word has 24, 20 or 16 bits. (see Fig. 2a-c) It would have been obvious to modify Kopf, Fielder and Warren's method to compression audio signal and having the words as 24, 20

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or 16 bits as taught by Uramoto for the purpose of modifying the compression method at anytime.

Claims 5-7 rejected under 35 U.S.C. 103(a) as being unpatentable over Kopf, Fielder and Warren as applied to claims 1 and 2 above, and further in view of Tanaka et al. (U.S. Patent 6,560,403), hereinafter referenced to as Tanaka.

Regarding claim 5, Kopf, Fielder and Warren teach the method of claim 2, however they do not specifically disclose a method in which each compression block consists of 48 compression packets. This is well known in the art as taught by Tanaka. In a similar field of endeavor, Tanaka discloses a method in which each compression block consists of 48 compression packets (general information). (col. 11, lines 15-20) It would have been obvious at the time of the invention to modify Kopf, Fielder and Warren's methods with that of Tanaka to provide a block having 48 compression packets for the purpose providing optimal compression of the audio data.

Regarding claim 6, Kopf, Fielder, Warren and Tanaka disclose the method of claim 5, Tanaka further discloses the method in which the compression information comprises synchronization information, transport identification information, and data identification information. (see fig 22: synchronization information and fig. 25: physical data is regarded by the examiner as data identification)

Regarding claim 7, Kopf, Fielder, Warren and Tanaka disclose the method of claim 6 in which one or more bytes are dedicated to the synchronization information, one byte is dedicated to transport identification information and one byte is dedicated to data identification

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information. (see fig 22: synchronization information and fig. 25: physical data is regarded by the examiner as data identification)

Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Kopf, Fielder and Warren as applied to claim 1 above, and further in view of Paik et al. (U.S. Patent 5,241,382), hereinafter referenced to as Paik.

Regarding claim 9, Kopf, Fielder and Warren disclose the method of claim 1, however they do not teach a method in which the audio data comprises a plurality of channels and is packed into the remaining space in the compression packet leaving no empty bits between channel data. This is a common method as taught by Paik. In a similar field of endeavor, Paik discloses the a method in which the audio data comprises a plurality of channels and is packed into the remaining space (filler bits) in the compression packet leaving no empty bits between channel data. (col. 10, lines 8-14) It would have been obvious to modify Kopf, Fielder and Warren's methods with the method taught by Paik for the purpose of filling the compression packet with other data.

Regarding claims 11-20, claims 11-20 are apparatus claims implementing methods similar to the methods performed in claims 1-10, and are therefore rejected under similar rationale.

Response to Arguments

2. Applicant's arguments filed 2/21/07 have been fully considered but they are not persuasive.

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3. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, one of ordinary skill would recognize the advantages of modifying the compression method taught by Kopf with Fielder's audio coding method to provide a device that would divide the audio signal in blocks, then packets and words and providing one word with configuration information for the purpose of being able to compress the data to add more information in the remaining spaces. It would have been further obvious to modify Kopf and Fielder's compression and coding method with the system taught by Warren to provide tagging to the word in the compression packet for the purpose of providing information regarding how to a compress packet and being able to restore it to the original signal.

4. Applicant argues Fielder fails to teach providing one word in each compression packet with a component of configuration data, so that overall a compression block contains sufficient configuration information to identify the manner of packing data into the compression block. The Examiner cannot concur. Fielder teaches providing a component of configuration data at col. 8, lines 41-52 and col. 17, lines 4-25, by specifically teaching Control data is generated for the control segment of the frame, which includes additional control data that indicates the frame rate of frames, boundaries of segments, parameters of coding operations, and error detection and can be repeated for each block of the audio signal. Additionally, Fielder provides specifics of the

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control data or parameter data that is generated that indicates parameters of coding operations, that indicate which species of coding operation is used for coding data into a frame. Thus, the teachings of Fielder provide adequate support for providing a component of configuration data.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANGELA A. ARMSTRONG whose telephone number is (571)272-7598. The examiner can normally be reached on Monday-Thursday 11:30-8:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Angela A Armstrong/
Primary Examiner, Art Unit 2626